Instructions for

Determining Precipitation Forecasts for CAFO Permits

using the

National Weather Service website

WARNING: Do not be intimidated. This is much easier then it may seem at first. Once you learn how to do this and save the results in your Favorites you can check both forecasts in less then a minute (or up to a few minutes depending on your internet connection speed). In fact, you may find these forecast models useful in planning other areas of work on your farm.

Start at this website: http://www.nws.noaa.gov/mdl/synop/products.shtml. Once you are there you may wish to save it in your Favorites. If the website has changed or the required forecast models are not longer available, please contact the Michigan Department of Environmental Quality Office listed on your Certificate of coverage or on the cover page of your permit

1. Click on “Forecast Graphics” in the “GFS MOS (MAV)” box (near the center of the page).

2. In the column on the left side, in the drop down box under “Precipitation”, click on “24H Prob. >= 0.50 in.”. Note: if it has been determined that a smaller precipitation event is capable of producing runoff or erosion then use a smaller precipitation probability such as “24H Prob. >= 0.25 in.”.

3. This will bring up a map of the U.S. showing precipitation probabilities as colored bands or areas for the upcoming 24 hour period. Precision is not ideal because it covers all of the U.S. but estimate the color for the proposed land application area. If the precipitation probability is 70% or greater (blue shades) then you may not land apply. You can save the map in your favorites.

4. Underneath the map are day & time boxes such as “Tuesday” and “00” and “12”. That would be Tuesday midnight and noon, GMT (Greenwich Mean Time) which is 5 hours ahead of EST (Eastern Standard Time) and 4 hours ahead of EDT(Eastern Daylight Time). So “Tuesday 00” would be 7 p.m. EST or 8 p.m. EDT Monday. The map forecast is for the 24 hour period ending at the highlighted time. The first box, which will be highlighted when you bring up the map, will give the map for the upcoming 24 hour period. You can click on subsequent time periods to see future forecasts. You should always check the immediate upcoming 24 hour forecast just prior to a planned land application event.

After you have finished checking the maps use your back button or go to your Favorites to return to the above website.

1. Click on “Text Message By Station List” in the “GFS MOS (MEX)” box (toward the right side on the page).

2. In the list of states on the left side click on “Michigan”.

3. In the list that comes up on the right side click in the box for the station closest to the land application location. You may need to select 2 or 3 stations if none are close to the land application area. If selecting more then one station, note the 4-letter station designation after each station name so you know which chart is for which station.

4. Once you have selected the station(s) scroll to the bottom of the Michigan station list and click on “Go to the bottom to submit now”. Then click on the “Submit Query” box.

5. You will now have a very confusing chart for each selected station (you can save this page in your Favorites). Look down the left hand column for “Q24” and read across the first number. It will be one digit from 0 to 6. This is the only number you need to be concerned with. This number is the quantity precipitation forecast for the upcoming 24 to 48 hour period. 0 = no precipitation, 1 = 0.01” to 0.09”, 2 = 0.1” to 0.24”, 3 = 0.25” to 0.49”, 4 = 0.5” to 0.99”, 5 = 1.0” to 1.99” and 6 = > 2.0”. If it is 4 or greater you may not land apply. Note: if it has been determined that a smaller precipitation event is capable of producing runoff or erosion then use a smaller precipitation quantity forecast number. For example, if 0.35” of precipitation in 24 hours on a particular field will produce runoff or erosion then you may not land apply if the number is 3 or greater.

6. You may need to check the charts 2 or 3 times in advance of a planned land application event to determine the precipitation amount forecasted for the land application time frame.

In the event that you are immensely curious as to what all the rest of the data on these charts mean, then go back to the website at the top on these instructions and in the left hand column click on “GFS Description” to get to an explanation page.

Once you have saved the map and charts in your Favorites, you can click on those links and get to the current map or chart(s) with just one click!